

IN THE CLAIMS

1 (currently amended): A computer readable medium encoded with an image data structure for facilitating the rendering of an image by an image processing device, comprising:

a first data field operable to store opaque data, the opaque data indicating whether image data is transparent or opaque; and

~~one or more pixel data fields associated with the first data field, the one or more pixel data fields operable to store first pixel data in each pixel data field when the opaque data indicates an image is opaque, and operable to store second pixel data and transparency data in each pixel field when the opaque data indicates that the image is transparent~~

a red pixel data field associated with the first data field, the red pixel data field operable to store first red pixel data when the opaque data indicates an image is opaque, and operable to store second red pixel data and first transparency data when the opaque data indicates that the image is transparent;

a green pixel data field associated with the first data field, the green pixel data field operable to store first green pixel data when the opaque data indicates an image is opaque, and operable to store second green pixel data and second transparency data when the opaque data indicates that the image is transparent; and

a blue pixel data field associated with the first data field, the blue pixel data field operable to store first blue pixel data when the opaque data indicates an image is opaque, and operable to store second blue pixel data and third transparency data when the opaque data indicates that the image is transparent, wherein the first, second and third transparency data specify a transparency level of a pixel defined by the second red, green and blue pixel data.

2 (cancelled)

3 (original): The computer readable medium of claim 2, wherein the one or more pixel data fields comprise an approximated 5-6-5 pixel format when the opaque data indicates that the pixel data is transparent.

4 (original): The computer readable medium of claim 2, wherein the transparency level defined by the first, second and third transparency data comprise first, second and third bits, respectively, the first bit for selecting one of a plurality of transparency operations for rendering an image and the second and third bits defining bit shifting and masking operands for the selected transparency operation.

5 (original): The computer readable medium of claim 2, wherein the first, second and third bits define transparency levels according to a logarithmic increment.

6 (currently amended): A computer implemented method of processing image pixel data corresponding to an image pixel, comprising:

- determining if the image pixel is opaque or transparent;

- if the image pixel is determined to be opaque, then determining a pixel color value from a first set of the image pixel data;

- and if the image pixel is determined to be transparent, then:

 - determining a transparency value from a second set of the image pixel data; and

 - determining a pixel color value from a third set of the image pixel data;

- wherein the second and third sets of the image pixel data ~~are subsets of~~ occupy the same data bits as the first set of image pixel data.

7 (original): The method of claim 6, further comprising:

- storing the image pixel data in a first memory store;

- storing displayed image pixel data in a second memory store;

- if the image pixel is determined to be transparent, then:

 - determining a bit shift value based on the transparency value; and

 - performing a bit shift of the bit shift value on the image pixel data stored in the first memory store and displayed image pixel data in the second memory store to determine a new displayed image pixel data.

8 (original): The method of claim 7, wherein performing a bit shift of the bit shift value on the image pixel data stored in the first memory store and displayed image pixel data in the second memory store to determine the new displayed image pixel data comprises:

selecting a first set of shifting operations if the transparency value corresponds to a first characteristic; and

selecting a second set of shifting operations if the transparency value corresponds to a second characteristic.

9 (original): The method of claim 6, wherein the transparency value is one of a plurality of logarithmic transparency values.

10 (currently amended): A mobile communication device including an image processing device, the image processing device operable to process image pixel data corresponding to an image pixel and comprising:

means for determining if the image pixel is opaque or transparent;

means for determining a pixel color value from a first set of image pixel data when the image pixel is determined to be opaque; and

means for determining a transparency value from a second set of the image pixel data and for determining a pixel color value from a third set of the image pixel data if the image pixel data is determined to be transparent, wherein the second and third sets of the image pixel data ~~are subsets of~~ occupy the same data bits as the first set of image pixel data.

11 (original): The mobile device of claim 10, wherein the means for determining if the image pixel is opaque or transparent comprises a first data field stored in a computer readable medium in the mobile device and operable to store opaque data, the opaque data indicating whether image data is transparent or opaque.

12 (original): The mobile device of claim 10, wherein the means for determining a pixel color value and the means for determining a transparency value comprise one or more pixel data fields associated with the first data field and stored in a computer readable medium in the mobile device, the one or more pixel data fields operable to store first pixel data in each pixel data field when the opaque data indicates an image is opaque, and operable to store second pixel data and transparency data in each pixel data field when the opaque data indicates that the image is transparent.

13 (original): A mobile communication device, comprising:

a display device;

a memory module comprising a source image buffer and a destination image buffer, the source image buffer operable to store first image data to be displayed on the display device, and the destination image buffer operable to store second image data to be displayed on the display device, the second image data comprising a first data field operable to store opaque data, the opaque data indicating whether second image data is transparent or opaque, and one or more pixel data fields associated with the first data field, the one or more pixel data fields operable to store first pixel color data when the opaque data indicates an image is opaque, and operable to store second pixel color data and transparency data when the opaque data indicates that the image is transparent.

14 (original): The mobile communication device of claim 13, further comprising an imaging module operable to determine if the second image data is opaque or transparent based on the opaque data, to determine a pixel color value from the first pixel color data if the image is determined to be opaque, and to determine the pixel color value from the second pixel color data and to determine a transparency level from the transparency data if the image is determined to be transparent.

15 (original): The mobile communication device of claim 13, wherein the second pixel color data comprise an approximated 5-6-5 pixel format when the opaque data indicates that the pixel data is transparent.

16 (original): The mobile communication device of claim 15, wherein the opaque data comprises first, second and third transparency data bits that collectively define a transparency level.

17 (original): The mobile communication device of claim 16, wherein the first bit corresponds to a selection from one of a plurality of transparency operations for rendering an image and the second and third bits defining bit shifting and masking operands for the selected transparency operation.

18 (original): The mobile communication device of claim 13, wherein the transparency data defines one of a plurality of logarithmic transparency values.

19-21 (cancelled)

22 (new): A method comprising:

storing, for each pixel of an image, pixel data in a data field, the data field including an opacity bit, a first set of bits, and a second set of bits, wherein:

when setting the opacity bit to an opaque-indicating state, using all bits in the first set to store a color level value of a first composite color of the pixel, and using all bits in the second set to store a color level value of a second composite color of the pixel; and

when setting the opacity bit to a transparency-indicating state, using at least one bit from each set to store a transparency level value, and using other bits of each set to store the respective color level value.

23 (new): The method of claim 22, wherein said at least one bit from both sets together indicate a single transparency level value that is applicable to both colors.

24 (new): The method of claim 22, wherein the data field further includes a third set of bits, and the storing step further includes:

when the opacity bit is set to an opaque-indicating state, using all bits in the third set to store the color level value of a third composite color of the pixel; and

when the opacity bit is set to a transparency-indicating state, using at least one bit from each of the three sets to indicate a transparency level value, and using other bits from each of the three to store the respective color level value.

25 (new): A method for blending pixel data of a first image with pixel data of a second image, comprising, for each pixel of the first image:

bit-shifting a color level value for each composite color of the pixel by a number of bit positions indicated by a transparency value for the pixel; and

adding the bit-shifted color level for each composite color to a color level value of the corresponding pixel of the second image.

26 (new): The method of claim 25, wherein, in the adding step, each color level value of the corresponding pixel of the second image is a bit-shifted color level value in that it has been bit-shifted by a number of bit positions based on a complement of the transparency level value.

27 (new): An image processing device configured to blend a pixel of a first image with a corresponding pixel of a second image, by bit-shifting a stored color level value of the pixel by a number of bit positions that is based on a stored transparency value of the pixel and then adding the bit-shifted color level value to a color level value of the corresponding pixel of the second image.

28 (new): A method for applying a transparency level value to a color level value of a pixel, comprising:

performing a combination of a bit-shift and a binary complement on the color level value, wherein the number of positions shifted in the bit-shift is based on the transparency level value.

29 (new): The method of claim 28, wherein the bit-shift is performed on the color level value, and the binary complement is performed on the bit-shift's result.